

Amendments To the Claims:

Please amend the claims as shown. Applicants reserve the right to pursue any canceled claims at a later date.

1-28. (canceled)

29. (currently amended) A method for performing a simulation in an industrial automation system for observation by ~~of presenting information to~~ at least one user, comprising:

placing a real component of the industrial automation system under the control of a process controller, the real component having a process setting determinable by input of a process value via a process link;

providing a process interface in the automation system for receiving input from the process link and connected for setting the real component in accord with the process value;

controlling the real component via the process controller and the process link, wherein the real component forms part of a real environment; and

providing a mixed virtual/real environment for presentation to the user of a dynamic simulation in a context which includes the real component in the real environment by augmenting the real environment with a simulated dynamization, thereby providing the user with a dynamic simulation in the context of the real environment, wherein ongoing processes running in the real environment are recorded and synchronized with the dynamic simulation, and wherein execution of the dynamic simulation is controllable by the user.

~~scanning an environment by at least one recording unit;~~

~~generating corresponding environment information identifying a position or an orientation of the system relative to the environment, by the recording unit;~~

~~generating simulation data by at least one simulation system;~~

~~continuously adapting image data stored in a first memory based upon the simulation data, by at least one processing unit; and~~

~~linking the environment information to the adapted image data, by the processing unit.~~

30. (currently amended) The method in accordance with claim 29, wherein the mixed virtual/real environment is displayed to the user by further comprising: calculating concealments of virtual objects corresponding to concealments of real objects arranged in a recording range of the system based upon the image data, by the processing unit; and generating a volume data set representing the virtual objects and the real component, by the processing unit, wherein such surfaces of the virtual objects corresponding to concealed surfaces of the real objects are hidden.

31. (currently amended) The method in accordance with claim 30, wherein while under the control of the process controller, the real component receives actuator values having a process setting determinable by input of a process value via a process link, and provides one or more sensor values associated with one or more states of the component during operation, the method further including:

storing the sensor and actuator values for the real component; and

for provision of the mixed virtual/real environment with the simulated dynamization, providing the sensor and actuator values to perform modifications to the ongoing simulated dynamization, further comprising displaying the volume data set on a display.

32. (currently amended) The method in accordance with claim 29, further including recording data during the ongoing simulated dynamization to enable playback of the recorded dynamization in slow motion and in a backwards direction in time, comprising interfacing with the simulation system or with a real process of the environment, by an application controller having an interface.

33 - 36. (canceled)